

REMARKS

This responds to the Office Action mailed on April 23, 2008.

Claims 1-7 are amended, no claims are canceled, and claims 8-12 are added; as a result, claims 1-12 are now pending in this application. New claims 8-12 are system claims that correspond to the method claims 1-5 respectively. The amendments are directed to the style of the claims rather than the substance. Thus, the amendments and the new claims do not necessitate a new search.

§101 Rejection of the Claims

Claim 7 was rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. Claim 7 was amended to recite a machine readable medium tangibly storing instruction data. It is submitted that the rejection has been overcome, and it is respectfully requested that the rejection be withdrawn.

§103 Rejection of the Claims

Claims 1-3, and 6-7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Seok et al. (US 2002/0078359 A1) in view of Hannigan et al. (U.S. 2002/0078359 A1).

Seok, titled "Apparatus for Embedding and Detecting Watermark and Method Thereof," and Hannigan, titled "Watermarking in the Time-Frequency Domain," are both related to watermarking. A watermark is auxiliary information (e.g., metadata) embedded into an information signal (or, quoting Hannigan at 1:19-21, is a process for modifying physical or electronic media to embed a machine-readable code into the media). A fingerprint of an information signal, on the other hand, is generated based on characteristic components of the information signal itself. Thus, obtaining a fingerprint involves examining the original signal itself (e.g., an audio signal or a video signal), while obtaining a watermark from a signal involves identifying information that has been added to the original signal.

The Office action states that Seok teaches a method of extracting a fingerprint and an apparatus for extracting a fingerprint and cites [0008], [0010], and [0019] that refer to watermarking but make no mention on fingerprinting. In order to show the feature of "extracting from said media signal a sequence of samples of a given perceptual property of the signal" recited in claim 1, the Office action cites passages in Seok describing embedding a watermark (Seok, [0004] and [0033]). It is submitted that the operation of extracting in general is different from the operation of embedding; and that the operation of extracting from a signal a sequence of samples of a given perceptual property of the signal is different from embedding a watermark into a signal. Thus, because the cited portions of Seok, as well as the entire specification of Seok, are not relevant to the techniques for fingerprinting, Seok fails to disclose or suggest "extracting from said media signal a sequence of samples of a given perceptual property of the signal" recited in claim 1.

In order to show the feature of "deriving from said sequence a binary sequence constituting said fingerprint" recited in claim 1, the Office action cites the portion in Seok at [00032] that describes a watermark detecting unit that analyzes a signal that is a combination of residual signals of the original audio signal and the delayed audio signal. A residual signal, as explained in Seok at [0031], is an error signal, in which the spectrum of the watermarked audio signal is eliminated. Thus, the cited passages in Seok are not relevant to deriving a binary sequence constituting said fingerprint, as recited in claim 1.

In order to show "the sequence of property samples" of a given perceptual property of the media signal, the Office action cites the watermarked audio signal inputted into a watermark detecting unit (Seok, Fig. 3). It is submitted that an input signal (e.g., watermarked audio signal) is not the same as a sequence of property samples extracted from a media signal, as recited in claim 1.

At [0031], Seok mentions calculating autocorrelation of the inputted signal (of a combination of residual signals of the original audio signal and the delayed audio signal). The sign - positive or negative - of the autocorrelation at the delay time (for which the original signal is delayed) is used for error correction of the copyright information embedded in the watermarked signal. (Seok, [0032].) It is submitted that calculating autocorrelation of the

combined error signal referred to in Seok is distinct from calculating autocorrelation for a sequence of samples of a given perceptual property of a media signal, as recited in claim 1.

In order to show representing the results of comparing autocorrelation values with respective thresholds by respective bits of the media signal fingerprint, the Office action cites the technique of reading of a watermark in Hannigan (7: 57 - 8: 8). As explained above and as is well known in the art, the terms "fingerprint" and "watermark" refer to distinct concepts and cannot be used interchangeably. Thus, the references to reading of a watermark in Hannigan cannot be treated as disclosing an operation to extract a fingerprint of a media signal, such as representing the results of comparing autocorrelation values with respective thresholds by respective bits of the media signal fingerprint, as recited in claim 1.

Thus, because Seok and Hannigan, whether considered separately or in combination fail to disclose or suggest the features of "extracting from said media signal a sequence of samples of a given perceptual property of the signal," "deriving from said sequence a binary sequence constituting said fingerprint," "subjecting the sequence of property samples to an auto-correlation function to obtain a sequence of auto-correlation values," "comparing said auto-correlation values with respective thresholds," and "representing the results of said comparisons by respective bits of the fingerprint," recited in claim 1, claim 1 and its dependent claims are patentable in view of the combination of Seok and Hannigan and should be allowed.

Claim 6, is directed at an apparatus for extracting a fingerprint from a media signal. As discussed above, the combination of Seok and Hannigan make no mention of extracting of a fingerprint, claim 6 and its dependent claims are patentable in view of the combination of Seok and Hannigan and should be allowed for at least the reasons articulated with respect to claim 1.

Claim 4 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Seok et al. (US 2002/0078359 A1) in view of Hannigan et al. (U.S. 2002/0078359 A1) and in further view of Kenyon et al. (US 2002/0023020 A1).

Claim 4 includes the features of claim one by virtue of its being dependent on claim 1. As discussed above, the combination of Seok and Hannigan fails to disclose or suggest the

features of claim 1 and is not relevant to extracting a fingerprint in general. Kenyon, whether considered separately or in combination with Seok and Hannigan, also fails to disclose or suggest these features. Therefore, claim 4 is patentable in view of the combination of Seok, Hannigan and Kenyon and should be allowed.

Claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Seok et al. (US 2002/0078359 A1) in view of Hannigan et al. (U.S. 2002/0078359 A1) and in further view of Hobson et al. (US 6,633,653 B1).

Claim 5 includes the features of claim one by virtue of its being dependent on claim 1. As discussed above, the combination of Seok and Hannigan fails to disclose or suggest the features of claim 1 and is not relevant to extracting a fingerprint in general. Kenyon, whether considered separately or in combination with Seok and Hannigan, also fails to disclose or suggest these features. Therefore, claim 5 is patentable in view of the combination of Seok, Hannigan and Kenyon and should be allowed.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at 408-278-4041 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Mail Stop Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 23 day of September 2008.

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